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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,599	01/16/2004	Danny Grant	IMMR-064/00US	5397

60140 7590 01/03/2007
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EXAMINER

LAO, LUN YI

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/758,599	GRANT, DANNY	
	Examiner	Art Unit	
	LUN-YI LAO	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 54-68 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 46-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg(5,959,613) in view of Levin et al(6,154,201).

As to claims 46-53, Rosenberg teaches an apparatus for providing haptic effects to a user comprising: a manipulandum (e.g. joystick)(see figures 1-7c; column 13, lines 55-68 and column 14, lines 1-9); a processor(12, 26) for receiving position signals relating to movement of the manipulandum, the processor(12, 26) for outputting a position based force signal(see figures 3a-3b) when the manipulandum is sensed throughout a detent and outputting a predetermined time-based for signal only once when the manipulandum is within the detent(see figures 1, 2, 5a-7c; and an actuator(30) configured to output a first haptic feedback force(e.g. recoil) to the manipulandum upon receiving the position based force signal and configured to output a second haptic feedback force(e.g. vibrate) to the manipulandum upon receiving the position based force signal and the predetermined time-based force signal(208) when the manipulandum reaches a position within the detent(see figures 1, 3a-3b; 5-

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7C; column 7, lines 19-32; column 13, lines 8-68; column 14, lines 1-29; column 16, lines 48-65; column 17, lines 57-68; column 18, lines 1-34 and column 19, lines 1-29);

Rosenberg fail to point out a threshold position within the detent.

Levin et al teach a method comprising a threshold position within the detent(see (P4 or O or P or original position or center position) and a processor(202) for outputting a haptic feedback force upon receiving the position based on force signal(different positions having different force signals)(see figures 7A-7B, 7D; column 10, lines 30-68; column 11; column 12, lines 1-26; column 16, lines 58-68; columns 17-19 and column 20, lines 1-39). It would have been obvious to have modified Rosenberg with the teaching of Levin et al, so as to enhance the haptic feedback(see Rosenberg's figures 5-6; column 15, lines 59-68 and column 1-47).

As to claim 47, Rosenberg as modified teach the manipulandum(34) is a rotatable knob(see Rosenberg's figures 1-2; column 11, lines 18-29; and Levin et al's figure 1 and column 4, lines 49-51).

As to claim 48, Rosenberg as modified teach the predetermined time-based force signal comprises a single time-based waveform(see figures 5, 7a-7c; column 15, lines 59-68 and column 16, lines 1-27).

As to claim 49, it would have been obvious to have a plurality of time-based waveforms in the predetermined time-based force signal since Rosenberg teaches vibration force could have a sinusoidal force, a sawtooth-shaped force and a square waveform force(see figures 4a-5; column 14, lines 45-57; column 15, lines 66-68 and column 16, lines 1-7).

As to claim 50, Rosenberg teaches the predetermined time-based component is represented by at least one of: a saw tooth wave, a square wave, a pulse, a full sine wave and a triangle wave(see figures 4a-5; column 14, lines 45-57; column 15, lines 66-68 and column 16, lines 1-7).

As to claims 51-52, Rosenberg teaches the manipulandum is a depressible button of a video game controller(see figures 1-2; column 1, lines 20-39; column 5, lines 4-17 and column 11, lines 18-35).

As to claim 53, Rosenberg teaches the manipulandum is a depressible button of a computer mouse(see figures 1-2 and column 11, lines 18-30).

Response to Arguments

3. Applicant's arguments with respect to claims 46-53 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

4. Claims 54-68 are allowable since none of cited references teaches outputting a first haptic feedback force via the actuator upon receiving the position-based force signal when the manipulandum is moving between the first and second positions; and outputting a second haptic feedback force via the actuator only once upon sensing

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thmanipulandum at a threshold position between the first and second positions, with all other limitations cited in claims 54 and 68.

Conclusion

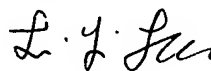
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 19, 2006



Lun-yi Lao

Primary Examiner